

E-Commerce or Traditional Purchasing Channel: Segmenting The Agro-Food Consumers in Cross River State, Nigeria

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Agro-food sector in Nigeria has witnessed a paradigm shift in the mode of commercial activities from traditional purchase channel to E-commerce purchase channel. However, studies show that a good number of consumers insist on the traditional purchase channel for agro-food purchase. Hence, to enable effective policy recommendations, this study was designed to identify consumer's choice of purchase channel for various agro-food products as well as identify distinct channel segments of the agro-food market in Cross-River State, Nigeria. To achieve this, a two-stage sampling technique was employed to select a total of 352 agro-food consumers for the study and primary data obtained were analyzed using both descriptive and inferential statistics. The latent cluster analysis and binomial test statistics were inferential statistical tools employed in identifying distinct channel segments as well as testing the statistical significance of consumers choice of purchasing channel respectively. Results obtained showed that the respondents were predominantly female (82.6%) with ages ranging from 31-40 years and had obtained some forms of formal education. The study further recorded high preference for traditional channels in all agro-food product categories (cereals & beverages-79.1%; fruits & vegetables-92.5%; grains & flour-79.17%; oil-55.67%; tubers-85.83% and meat-93.33%). However, 30.19% of the respondents indicated preference for the use of M-commerce, showing that M-commerce has gained a wider acceptance rate than web-based purchase channels for some categories of agro-food products such as oil, cereals and beverages, grains and flour. Based on the latent class cluster analysis result, the agro-food consumers were grouped into 4 channel segments: indifferent channel buyers who are unconcerned about the purchasing channel (20.7%), loyal traditional channel buyers who are allegiant to traditional channels (10%), convenient channel buyers who are drawn by ease of access (57.5%) and service-based channel buyers who are allured by good customer service (11.9%). The study therefore recommends the use of Omni-channel (a combination of traditional and e-commerce channels) by firms and marketers for better competitive advantage and in cooperating agro-food products with longer shelf life such as oil, grains and flour in a firm's E-commerce product line.

Keywords: E-commerce, Purchasing Channels, M-commerce, Market segmentation, Agro-food.

INTRODUCTION

Amid slowing economic activities and lockdown, the Covid-19 pandemic sped up digitization and caused a boom in e-commerce activities (Umeji and Eleanya, 2020). More individuals as well as companies became digital, offering and acquiring more products and services online, raising e-commerce share from 14% in 2019 to about 17% in 2020 (OECD, 2023). The lockdown compelled consumers to use the internet in their daily routine (Abiad *et al.*, 2020), leading to an off take in on-line demand in the beverage and food sector (FAO, 2020). This led to a rapidly growing e-

commerce purchasing channel in the agro-food sector post-lockdown. According to a 2023 Food and Agriculture report, twenty-nine percent of farmers presently market exclusively to consumers, and the rise in online direct farmer to consumer sales is encouraging many farmers to do the same.

The Nigeria retail market over the years has shown to be dynamic and significantly characterized by high volatility due to a combination of urbanization, economic expansion, and changing consumer preferences (Nigeria Retail Sector Report, 2024). This function is influenced by globalization, information technologies and events such as the Corona Virus pandemic which began in early 2020 (Baruk *et al.*, 2020).

Uzoigwe, A.E., S. B. Ohen, E.A. Ajah, I.A. Asuquo and E.M. Amalu. 2025. E-commerce or traditional purchasing channel: segmenting the agro-food consumers in cross river state, nigeria. *Journal of Global Innovations in Agricultural Sciences* 13:1077-1084.

[Received 19 Jan 2025; Accepted 17 May 2025; Published 21 Jun 2025]



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These factors change consumer's preferences in selecting a purchasing channel. Thus, the fundamental issue which arises today if a prospective customer embarks on a purchase, is which mode of shopping he/she will choose to satisfy their needs?

With various evolving forms of E-commerce such as Mobile commerce or m-commerce which describe the growing trend of using networks that interface with wireless devices, such as laptops, handheld computers or mobile phones to initiate or complete on-line electronic commerce transactions and is gaining wider acceptance in Nigeria due to prevalence of mobile phones, Web-based e-commers which entails buying and selling over the internet via websites and web applications (UNCTAD, 2021), E-commerce in Nigeria continues to evolve over the years. This trend is being escalated with the recent Central Bank of Nigeria (CBN) demonetization policy in October, 2021 with the inclusive goal of fostering innovation by converting physical cash to digital currency and promoting digital transactions (CBN, 2022). With an emerging market with a population of over 195.87 million and internet penetration of 70% (NCC, 2024), E-commerce in Nigeria has found new markets. Data suggests that, due to rising internet penetration and the pervasive usage of mobile devices, online shopping is expected to expand at a compound annual growth rate (CAGR) of more than 20% over the next five years (Nigeria Retail Sector Report, 2024). Thus, Nigeria's e-commerce market, estimated at \$8.53 billion in 2024, is projected to reach \$14.92 billion by 2029, driven by a CAGR of 11.82%, with mobile e-commerce expected to dominate online shopping (Statista, 2024).

However, the Nigeria agro-food market which contributes 30% of the country's Gross Domestic Product (GDP) (CBN, 2021) has been historically characterized by the conventional traditional purchase channels encompasses face-to-face interactions, physical transactions, and established supply chains (Sridher *et al.*, 2023). However, the 2024 Statistic Global Consumer Survey conducted in Nigeria shows that 41% of the Nigerian population remains averse to e-commerce for agro-food products and would prefer to see an item before purchase. This could be as a result of varying socio-economic and cultural factors associated with food and food systems in Nigeria such as channel trust, accessibility of Native foods in traditional marketplaces, conventional pricing methods, availability of fresh varieties of products, food safety concerns and digital literacy (Global Agricultural Information Network, 2021). This is consistent with KPMG International Report (2024), which posits that consumers tend to highly rank the try/touch experience provided by the stores especially for agro-food products. Thus, irrespective of the changing global market landscape, traditional retail markets in Nigeria comprising of roadside and shops in the open markets persist due to their unique advantages, including accessibility, experiential shopping, product inspection, and

social interaction, ensuring their continued relevance (Iroanwusi *et al.*, 2023).

Furthermore, according to the Technology Acceptance Model (TAM), the acceptance and usage of technology are influenced by two primary factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEU) (Davis, 1989). In the context of e-commerce, PU refers to the degree to which consumers believe that online shopping will improve their shopping experience, while PEU refers to the ease with which consumers can navigate and use e-commerce platforms. Thus, ease of use is an antecedent to usefulness, rather than a parallel, direct determinant of the use of technology. That implies that ease of use indirectly affects consumers' choice of purchasing channels. Recent important additions to the TAT include the constructs of "perceived risks," "perceived enjoyment," "internet usage," and "previous on-line shopping experience" (Bhatnagar *et al.*, 2020). Thus, this study relies on the Technology Acceptance Model in identifying and naming market segments based on consumer behaviour and preference relating to technology adoption/usage and consequently choice of purchasing channel.

Hence, albeit several studies have been done on marketing channel choice worldwide as well as in Nigeria, such as Mburu *et al.*, (2007), Ezeibe *et al.*, (2012), Opata, (2018) and Luka *et al.*, (2021). However, the focus of these studies was on the producers' choice of marketing channel. Hence, very little has been put forward on consumers' choice of purchasing channel and studies such as this are very vital because they will provide the basis for formulating marketing strategies by agribusiness owners. Also, little or no study has addressed the complex but ever-growing e-commerce agro-food market in Nigeria. This study therefore sought to bridge the knowledge dearth and add to existing literature. Consequently, two specific objectives were put forward to identify consumer's choice of purchase channel for various agro-food products in Cross River State and to identify distinct channel segments of the agro-food market in Cross River State.

MATERIALS AND METHODS

Study area: The Nigerian agro-food sector has historically been overlooked, with primary focus on crop and animal production (Opata, 2018), this is consistent with FAO (2021), data which revealed that the country's agricultural sector was largely subsistence-based, with limited processing and value addition. In response, the Nigerian government introduced the Agricultural Transformation Agenda in 2021, marking a significant policy shift towards treating agriculture as a business. This led to the development of the 2022 Nigeria Agricultural Project activity (NAPA), aimed at promoting sustainable development in the agro-food sector, with a focus on three states: Ebonyi, Delta, and Cross River. This study aims to contribute to the attainment of NAPA's objectives in



Cross River State by investigating consumers' purchasing channel choices, thus, providing insights for effective policy recommendations and programs tailored to individual market segments. Hence, the choice of Cross River State as the study area for this research.

Cross River State has a total geographical area of 20, 156 square kilometers and a population estimate of 3,737,517 people (NPC, 2006). With a total of 18 Local Government Areas, Cross River State is located between latitudes 4°45'N and 8°30'E and bounded by Benue State in the North, Ebonyi and Abia States in the West, Akwa Ibom State in the South and Cameroon in the East. Average maximum temperatures vary from 15°C and 30°C and record an annual rainfall of 3306mm. As an Agricultural State whose economy relies majorly on crops such as cocoyam, oil palm, cocoa and plantain, Cross River State is known to have an active agro-food industry. Thus, a two- stage sampling method was adopted for the selection of a sample size for the study. In stage one; purposive sampling was used to select 6 LGA's on the basis of the highest internet usage: Calabar Municipal, Calabar South, Ugep, Ikom, Akamkpa and Ogoja from the 18 LGA's in Cross River State (NCC, 2021). In stage two, proportionate random sampling was employed to select a total of 352 households using the Taro Yamene sample size formula (as seen in equation 1) from a sample frame of 2966 registered household (obtained from the Cross River Geographic information & Property Eligibility Agency) in the Local Government Areas of Cross River State. Using the questionnaire and survey method, quantitative research approach was employed for this research and primary data were collected with the aid of a well-structured questionnaire distributed to "household primary food shoppers" following the convention that "household primary food shoppers" are persons responsible for majority of the food shopping in a household (Konus et al., 2008).

$$n = \frac{N}{\frac{K+N(e)^2}{2966}} = 352 \quad (1)$$

Where N = population of study; K = constant; e = degree of error expected; n = sample size

MODEL SPECIFICATION

Binomial test statistics: Objective 1 was analyzed using descriptive statistics and a one sample binomial test (Howell, 2007) to test for the null hypothesis:

h_0 = There is no significant difference between the theoretical expected preference distribution and the observed preference distribution.

The binomial test is an exact test of the statistical significance of deviations from a theoretically expected distribution of observations into two or more categories using sample data. It was therefore used to differentiate true choice from random chance; the one-sample binomial test was used with a specified confidence level (Howell, 2007). In an i sample of

n choices or successes, there are $\frac{K}{n} = X$ expected outcomes. The binomial test statistics show if the difference between expected outcome and observed outcome is statistically significant.

$$P = \sum_{i=0}^k \Pr(X = i) = \sum_{i=0}^k \binom{n}{i} \pi_0^i (1 - \pi_0)^{n-i} \quad (2)$$

Where: n = number of choices; X = Expected outcomes; k = Response frequency; i = Sample size; π_0 =Sample test statistics

Hence, $P \leq \text{Confidence level}$ = reject null hypothesis

Latent Class Cluster Model: Identification of distinct channel segments of the agro-food consumers in Cross River State (Objective two) was analyzed using the Latent Class (LC) cluster analysis (Vermunt and Magidson, 2013). The Latent class cluster analysis is employed where the latent variable (customer) segment is considered as a categorical variable taking on K possible values, corresponding to K segments as obtained in this study. The basic LC cluster model has the form:

$$f\{y_i|\theta\} = \sum_{k=1}^K \pi_k f_k(y_i|\theta_k) \quad (3)$$

Where:

y_i = An object's score on a set of observed variables

K = Number of clusters

π_k =probability of belonging to a latent class or cluster k or equivalently, the size of cluster k

y_i =Indicators/ dependent variables

As fitted for this study, the model is specified thus:

$$f(U_{icd}/z_i) = \sum_{x=1}^K [\prod_{d=1}^2 \prod_{c=1}^3 g(U_{icd}/z_i, s_i)] p(s_i = x/z_i) \quad (4)$$

Where

U_{icd} = Respondent i 's perceived utility of channel C such that $C = 1$, or 2 signifies a retail store or internet respectively.

s_i = Indicator of respondents i 's segment, equal to $1, 2 \dots K$.

Where K is the number of segments

z_i = Vector of behavioural covariates for respondent i .

$f(U_{icd}/z_i)$ = Probability distribution for respondent i 's perceived utility of channel C , given the respondent's set of Behavioural variables.

$g(U_{icd}/z_i, s_i)$ = Probability distribution for respondent i 's attitude toward channel C given the respondent's set of behavioural variables and given that the respondent is in segment s_i .

$p(s_i = x/z_i)$ = Probability that the respondent i is in segment x given the respondents behavioural variables

The most popular set of model selection tools in LC cluster analysis are information criteria like AIC, BIC, and CAIC (Fraley and Raftery 1998) are used to determine the number of clusters and their forms. Where

$$BIC = 2 \log p(x|M) + \text{constant} \approx 2I_M(x|\sigma) - m_M \log(n)$$

Where

$p(x|M)$ =Integrated likelihood of the data for the model M

$I_M(x|\sigma)$ =maximum likelihood for the model

m_M = Number of independent parameters to be estimated



The number of clusters is not considered an independent parameter for the purposes of computing the BIC. If each model is equally likely, then $p(x|M)$ is proportional to the posterior probability that the data conform to the model M . Accordingly, the smaller the value of the BIC, the stronger the evidence for the model as well as the model fit.

RESULTS AND DISCUSSION

Descriptive Statistics: using the respondent's recruitment criteria of selecting household primary food shoppers, results on sex of respondents show that females are the primary food shoppers of households in the study area making up 82.67% of the sample size. This is in line with the findings of [Van Hove \(2022\)](#) and [Ele and Ogbeidi \(2015\)](#) which found that grocery shopping was carried out by females in most households and Nigeria respectively.

Results for the age distribution of respondents indicated that more of them (34.94%) were between the age range 31-40 years. Hence, with a mean age of 36 years, 70.45% of the respondents were of age 21-40 years. This could reflect on their technology adoption rate and consequently e-commerce adoption in line with [Nwakiji and Goh \(2021\)](#) suggested that younger persons within the age range 21 to 40 years were more inclined to using e-commerce channels.

The educational level of respondents was obtained using the number of years spent in school by respondents and results showed all respondents have had some form of formal education. With 50.83% having completed secondary education (≥ 13 years=50.83). This agrees with [NCC \(2021\)](#) report that educational dense cities recorded higher network/internet traffic.

On marital status, findings show that majority (78.4%) of the respondents were married, 8.81% were single, 6.25% were divorced/separated and 6.54% were widowed. Also, majority of the respondents (85.83%) household size ranged between 1– 6 while 11.67% had a household size of 7-12. Respondents were also predominantly (39.17%) into business/self-employed, while 21.67% and 17.50% of the respondents were civil servants and students/unemployed members of society as presented in Table 1.

Purchase channel preference: results showed that in line with the [Food and Agriculture Organization report \(2021\)](#), traditional channels were preferred for the purchase of agro-food products in the study area, as seen in Figure 1 (cereals & beverages-79.1%; fruits & vegetables-92.5%; grains & flour-79.17%; oil-55.67%; tubers-85.83% and meat-93.33%). However, the result also showed that Mobile purchase channel (M-commerce) was preferred to Web-based purchase channel for the purchase of Agro-food items with a substantial 30.17% of the sample population preferring to buy oil from this purchase channel.

Table 1. Socio-economic characteristics of respondents

Variables	Frequency	Percentages
Sex		
Male	61	17.33
Female	291	82.67
Total	352	100.00
Age		
21-30	123	34.94
31-40	125	35.51
41-50	56	15.91
51-60	38	10.80
>60	10	2.84
Total	352	100.00
Marital status		
Single	31	8.81
Married	276	78.40
Divorced	22	6.25
Widowed	23	6.54
Total	352	100.00
Household size		
1-6	302	85.83
7-12	41	11.67
12-17	9	2.50
Total	352	100.00
Mean	4	
Occupation		
Student/unemployed	62	17.50
Civil servant	76	21.67
Business/self-employed	138	39.17
Farming	53	15.00
Other	23	6.67
Total	352	100.00

Source: Field survey, 2023

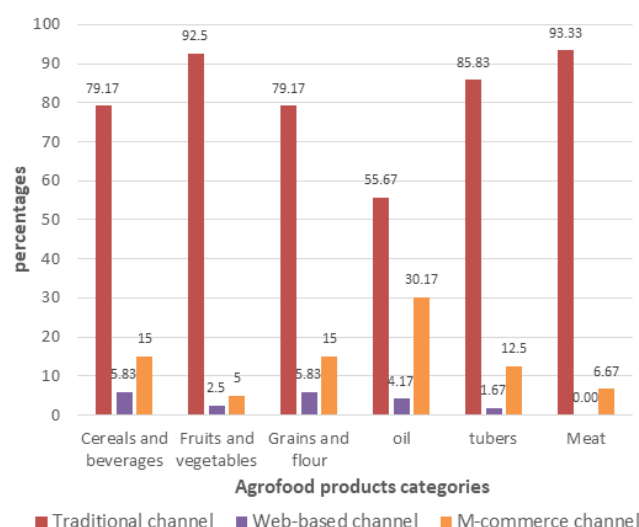


Figure 1. Multiple bar chart showing purchase channel preference for for Agro-food consumers



Table 2. Binomial test statistics

Agro-Food	Traditional (%)	Web-based channel (%)	Mobile purchase channel (%)	p-values	CI (lower limit)
Cereals & Beverages	79.17	5.83	15.00	2.37E-06	60.80
Fruits & Vegetables	92.50	2.50	5.00	1.08E-02	72.30
Grains & Flour	79.17	5.83	15.00	4.00E-08	60.80
Oil	55.67	4.17	30.17	1.00E-04	41.16
Tubers	85.83	1.67	12.50	-2.01E-02	66.66

Source: Field survey data, 2023

Table 3. Model fit

Class	Log-likelihood	Resid.df	AIC	BIC	ABIC	CAIC	Entropy	G ²	G ² p	χ^2	χ^2 p
2	-547	1002	1137	1195	1129	1216	0.851	278	1	2462	<.001
3	-535	991	1134	1223	1122	1255	0.751	254	1	2263	<.001
4	-491	980	1068	1188	1052	1231	0.961	166	1	1246	<.001
5	-481	969	1070	1220	1050	1274	0.943	146	1	1094	0.003
6	-465	958	1061	1242	1036	1307	0.867	114	1	226	1.000

Source: Field survey data, 2023

Note: G²=Likelihood ratio statistic; χ^2 =Pearson Chi-square goodness of fit statistic; Entropy=entropy R²

Thus, employing the binomial test statistics in Table 2, results show that the p-values are lower than the 95% confidence level which is an indication that respondents purchase channel preference is statistically significant, being that it is lower than 0.05 that is, all percentages are above what would be expected by chance. Additionally, using the lower limit of the 95% confidence level as a binomial metric to measure statistical significance, results show that the lower limit values are higher than the test proportion (0.33) or 33%. Hence, we can conclude that respondent's choices are statistically significant, that is, respondent's choices are not a function of random chance selection but true choices.

Agro-food market segmentation: the Latent cluster analysis (LCC) was used to group the heterogeneous agro-food market into distinct homogenous segments using a set of 10 behavioural variables (Table 4) presented as questions to respondents to elicit the probability of a Yes response. Table 3 shows the model fit for an LCC analysis performed using Latent GOLD software (v.4.0) while Table 4 shows the 10 variables used in the analysis. To select the appropriate number of clusters in the final model, different numbers of clusters were tested, from two to six, given that the sample size is less than 400 (Vermunt and Magidson, 2013). The parameters BIC, AIC and CAIC were used to choose the final number of classes. Table 3 shows the evolution of BIC, AIC and CAIC for the 5 models. As the number of classes increases, the BIC, AIC and CAIC values decline; however, when the number of clusters is bigger than 4, the values of the parameters increase. Hence, we obtain a minimum value of AIC, BIC and CAIC values for the 4 -class model. This indicates that the sample has four distinct classes/segments. In addition, a 4 -class model gives the highest entropy of the entropy 0.961 indicating a good separation between clusters

(McLachlan and Peel, 2000). Therefore, a 4- class model was selected to give an optimal solution to the model.

Using the ten questions put forward to respondents as indicators of consumers choice of purchasing channels as seen in Table 4 (Dias and Vermunt, 2007; Bhatnager, 2004). The final model (4 class model) was characterized by the proportion of each variable. The clusters were analyzed and named (Table 5) based on the probability distribution of the variables/indicators.

Class 1: Respondents in this class had higher probability (p=0.971) of indifference in their choice of purchasing channel and make up the second largest segment (20.07%). Hence, were described as "indifferent channel buyers" as highlighted in Table 5. This is similar to Konus *et al.* (2008) market segmentation results for the apparel market in Dutch in which a total of 3 distinct market segments was obtained, one of which was described as the "multi-channel enthusiast" which comprised of respondents who have a positive attitude towards all purchasing channels as well as are willing to try out all channels.

Class 2: comprised of 10% of the sample, characterized by their strong preference for traditional stores (p=1) and their engagement of mobile and on-line platforms for product search and price comparison (p=0.8033). hence, is described as the "Loyal traditional channel buyers" as seen in Table 5. This segment can be likened to the "store focused" segment of consumers described by Sands *et al.*, (2016) as consumers who rate only the traditional purchase channel as important. Albeit, Sands *et al.*, (2016) segmented consumers based on psychographic variables such as personality, lifestyle, social class and attitudes. However, this segment taking up the least percentage in this study is counter intuitive to the limited segmentation studies that have been carried out in Nigeria



Table 4. Probability of cluster membership.

PROBABILITY OF A YES RESPONSE				
Behavioural variables/Indicators	Class 1 20.70%	Class 2 10%	Class 3 57.50%	Class 4 11.90%
Q1. I do not mind which purchase channel (shops/market or on-line/mobile phones) I use in buying my agro-food products.	0.947	0.25	0.841	1.21E-105
Q2. I will never purchase agro-food on-line or with a mobile phone.	4.00E-278	0.25	0.499	0.744
Q3. I prefer to walk into a shop/market to buy my agro-food products.	3.18E-18	1	0	0.916
Q4. I would only buy agro-food products from any of those channels (shops/market, on-line/mobile phones) it is sold cheaper.	0.5372	0.0833	0.9683	0.1705
Q5. I would only buy agro-food products from channel (shops/market, on-line/mobile phones) that are more convenient to me (in terms of location, time spent etc.).	0.839	1.57E-107	1	0
Q6. I only use the internet/mobile phone to search for agro-food products and their prices but not to make a purchase.	0	0.80833	0.7392	0.0726
Q7. Which channel (shops/market, on-line/mobile phone) I buy from depends on how the seller or sales person treats me.	0.678	0.333	0.927	1
Q8. I only purchase my agro-food via on-line or mobile phone orders	0.2419	0	0.058	5.57E-31
Q9. I would only buy solid agro-food products such as garri, flour etc. on-line or mobile phone orders (for example, WhatsApp, Facebook, telephone orders).	0.161	0	0.116	0
Q10. I would only make bulk purchases of agro-food products on-line	0.4837	0.0833	0.1305	0

Source: Field survey data, 2023

Table 5. Segments for Cross River Agro-food Market based on Choice of Purchasing Channel.

	Class 1	Class 2	Class 3	Class 4
Descriptive Name	Indifferent channel buyers	Loyal traditional channel buyers	Convenient channel buyers	Service-based channel buyers
Size (%)	20.7	10.0	57.5	11.9

Source: Field survey data, 2023

(Ogbeidi and Ele, 2015; Hindu and Omar, 2015). This is perhaps because of events and occurrences in recent times such as the Covid-19 pandemic of 2020 and the advancement of the cashless policy in 2021.

Class 3: This constitutes the largest consumer segment for this study with 57.5% of the respondents who are price conscious ($p=0.9683$), value customer service ($p=0.927$), would mostly use the internet for product search ($p=0.7392$) and more importantly would make a purchase via channels that are convenient to them ($p=1$). This is termed “convenient channel buyers” as presented in Table 5. This agrees with Wang *et al.*, (2015) description of the “Convenience buyer” segment as habitual or frequent buyers who put little time, planning or effort into the buying process

Class 4: This segment of consumers is less price conscious as seen by a 0.175 probability of choosing a purchase channel based on price, they however have a high probability of purchasing agro-food products via traditional purchase channels ($p=0.916$) and this is dependent on the customer service they receive ($p=1$). This is in line with the traditional market theory, which suggests that firms focused on providing optimal customer service are more likely to create loyal consumer segments that are less fixated on product price

(Verhoef *et al.*, 2017). This segment is thus referred to as “Service-based channel buyers” as presented in Table 5 and it makes up 11.9% of the study sample.

Policy Implications/Limitations: With various government projects in recent times (such as the 2022 Nigeria Agricultural Project Activity) channeled towards the agro-food sector and tailored towards on sustainable development in agricultural states such as Ebonyi, Delta and Cross River, yielding little or no significant effect. Results of this study show that attention should be shifted to enhancing the E-commerce purchase channel to build channel trust in consumers by curbing cybercrimes that affect channel effectiveness. However, it is important to emphasize that this study has some limitations such as scope of study and sample size. The study was localized in only Cross River state out of the 36 states of Nigeria, which limits its ability to make inference for Nigeria and more importantly, the global agro-food market. Also, only LGA’s with high internet access based on NBC statistics were included, thus, excluding agro-food consumers in other LGA’s who use e-commerce platforms. Therefore, to ensure wholesome productivity in the agro-food market, further studies should consider this group of agro-food consumers, addressing their unique challenges.



Conclusion: Given recent global events as well as trends in Nigeria such as the 2020 Covid-19 pandemic and the CBN 2023 attempt at cashless policy, there has been a shift from the historic traditional purchase channels (brick & mortar stores) to E-commerce purchase channels in all sectors and the agro-food market is no exception. Therefore, leaving marketers with the challenge of which purchase channel to use for the various agro-food products. In line with this, results of this study show that M-commerce has gained a wider acceptance rate than web-based purchase channels and some categories of agro-food products such as oil, cereals & beverages, grains & flour are more favourable for selling via M-commerce (Mobile commerce) which involves all kinds of electronic transactions using mobile phone without necessarily using a computer browser. Furthermore, while there are several loyal traditional channel buyers (10%), there is a larger segment (57.5%) of convenience channel buyers who comprise consumers who spend minimal time and effort in the buying process and therefore base their purchase channel choice on ease and comfort. On the backdrop of these findings, the following recommendations were made:

- i. Firms and Marketers should enlist the use of Omni-channel (a combination of traditional and E-commerce channels) for better competitive advantage.
- ii. Agro-food products with longer shelf life such as oil, grains and flour should make up a firm's E-commerce product line.

CRedit author statement: AU conceptualized and wrote the manuscript, SO initiated and supervised the entire study process, while EA, IA, and EA assisted in literature review and data analysis.

Funding: No external funding was involved.

Acknowledgement: The authors owe a debt of gratitude to agencies such as the Nigerian Communications Commission and the Cross River Geographic information & Property Eligibility Agency for their technical support during data collection for this study.

Conflict of Interest: We declare no conflict of interest with anyone.

Publication Consent: the authors give their consent for this article to be published in JGIAS.

SDGs addressed: Zero Hunger, Decent Work and Economic Growth, Industry, Innovation, and Infrastructure, Responsible Consumption and Production.

Policy referred: Central Bank of Nigeria (CBN) Demonetization Policy of October 2021.

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